WEST

Generate Collection Print

L16: Entry 7 of 11 File: JPAB Dec 12, 1995

PUB-NO: JP407327219A
DOCUMENT-IDENTIFIER: JP 07327219 A
TITLE: ELECTRONIC CONFERENCE SYSTEM, CONFERENCE SERVER, AND PARTICIPANT COMPUTER

PUBN-DATE: December 12, 1995

INVENTOR-INFORMATION:
NAME COUNTRY
TAKAHASHI, YASUHIRO
MATSUI, SUSUMU
HOSHI, TORU

ASSIGNEE-INFORMATION:
NAME COUNTRY
HITACHI LTD

APPL-NO: JP06140752
APPL-DATE: May 31, 1994

INT-CL (IPC): H04 N 7/15; G06 T 9/00; H04 L 12/18

ABSTRACT:

PURPOSE: To display a picture on respective delivery destinatons at the same display start timing by displaying the picture suitably for the resolution of each computer of the distribution destination independently of the resolution of the distribution origin.

CONSTITUTION: A conference server 2 stores display resolutions of participant computers (PC) 1a to 2e and converts electronic material data received from the transmission side PC into maternal data of respective display resolutions and generates difference data between material data of the lowest display resolution and second lowest display resolution out of obtained material data and successively generates difference data in the same manner and gives attribute data indicating the distinction between material data and difference data and the display resolution to transmit the material data or the lowest display resolution ana each difference data. Each PC displays received material data of the lowest display resolution based on its attribute data and adds successively received difference data to already displayed material data based on attribute data to convert the material data to material data or resolutions designated by attribute data and displays these converted material data.

WEST

End of Result Set

Generate Collection Print

L28: Entry 1 of 1 File: JPAB Aug 11, 1998

PUB-NO: JP410215397A
DOCUMENT-IDENTIFIER: JP 10215397 A
TITLE: DIGITAL ELECTRONIC CAMERA

PUBN-DATE: August 11, 1998

INVENTOR-INFORMATION:

NAME	COUNTRY
NAGAI, HIROYUKI	

ASSIGNEE-INFORMATION:

NAME	COUNTRY
KYOCERA CORP	

APPL-NO: JP09017247
APPL-DATE: January 31, 1997

INT-CL (IPC): H04 N 5/225

ABSTRACT:

PROBLEM TO BE SOLVED: To efficiently transmit images by confirming a part of image information inside a storage means where electric signals for which object images on a transmission side are converted by a solid-state image pickup element are processed and stored as the image information by a data communication circuit on a reception side.

SOLUTION: In this digital electronic camera provided with a function as a portable telephone or a PHS, in the case that a receiver selects images at the time of the communication of the images, only a thumb-nail image which is a small screen for which the original images of the image information recorded in an image memory 15 inside the external storage medium of a transmitter is thinned is transmitted to the receiver. The receiver selects the image to be transmitted corresponding to a multi-display screen and the transmission side turns only the selected image to a full-size image, encodes it by a codec circuit 12 and transmits it to the reception side by a communication circuit 13. At the time, by performing screen display for indicating the screen during transmission at present, a user confirms the progress degree of transmission.

WEST

End of Result Set

Generate Collection Print

L46: Entry 6 of 6 File: JPAB Mar 19, 1993

PUB-NO: JP405068241A
DOCUMENT-IDENTIFIER: JP 05068241 A
TITLE: CIF IMAGE TRANSFORMING SYSTEM FOR VIDEO TELEPHONE

PUBN-DATE: March 19, 1993

INVENTOR-INFORMATION:

NAME	COUNTRY
FUJINO, YUICHI	
NAKANISHI, MAMORU	

ASSIGNEE-INFORMATION:

NAME	COUNTRY
NIPPON TELEGR & TELEPH CORP	

APPL-NO: JP03227626
APPL-DATE: September 9, 1991

INT-CL (IPC): H04N 7/01; H04N 7/14

ABSTRACT:

PURPOSE: To attain good conversation by picking up beforehand the image of an objective person in a wide angle, and detecting the face area of the person by picture processing, and generating this area by segmenting it by CIF or QCIF picture elements.

CONSTITUTION: In order to generate a CIF or a QCIF picture, the image of the objective person is picked up beforehand in the wide angle, and the face area of the person is detected by the picture processing by a moving area detecting means 103, and center coordinates for segmentation are calculated by a segmenting address calculating means 104, and a rectangular range including the face area of the person is segmented by the CIF or the QCIF picture elements. Then, if a face moves, a segmented range is changed within the image- picked up range in accordance with the movement of the face area, and the face is displayed as following the face area. Thus, the face area never goes out of the picture frame of a camera on account of the movement of the face part of the objective person, and the face are can be transmitted always to an opposite party side, and as the result, the good conversation can be realized through a video telephone.

WEST

Generate Collection Print

L16: Entry 3 of 11 File: JPAB Aug 27, 1999

PUB-NO: JP411234644A
DOCUMENT-IDENTIFIER: JP 11234644 A
TITLE: MULTI-POINT CONFERENCE SYSTEM

PUBN-DATE: August 27, 1999

INVENTOR-INFORMATION:
NAME COUNTRY
KATO, SUKEJI

ASSIGNEE-INFORMATION:
NAME COUNTRY
FUJI XEROX CO LTD

APPL-NO: JP10051320
APPL-DATE: February 17, 1998

INT-CL (IPC): H04 N 7/15; H04 M 3/56

ABSTRACT:

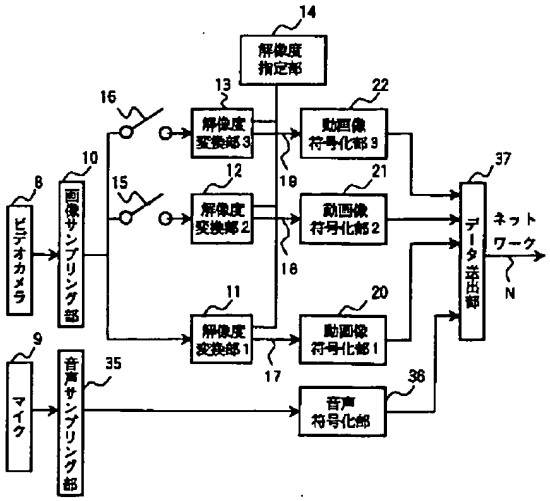
PROBLEM TO BE SOLVED: To provide the multi-point conference system where flexible display is attained in response to a calculation capability and a display capability of participant terminals without increasing a coding calculation amount in a multi-point conference.

SOLUTION: A 1st resolution conversion section 11 and a moving image coding section 20 of a transmitter side terminal generate a 1st moving image at a 1st frame rate with the 1st resolution. A 2nd or 3rd resolution conversion section 12 or 13 and moving image coding sections 21, 22 generate a 2nd moving image signal at a 2nd framer fate lower than the 1st frame rate and with a 2nd resolution higher than the 1st resolution to send the 1st moving image signal and the 2nd moving image signal to a network N from a data transmission section 37. Then a receiver side terminal generates a 3rd moving image signal at the 1st frame rate with the 2nd resolution from the received 1st and 2nd moving image signals and displays the signals.

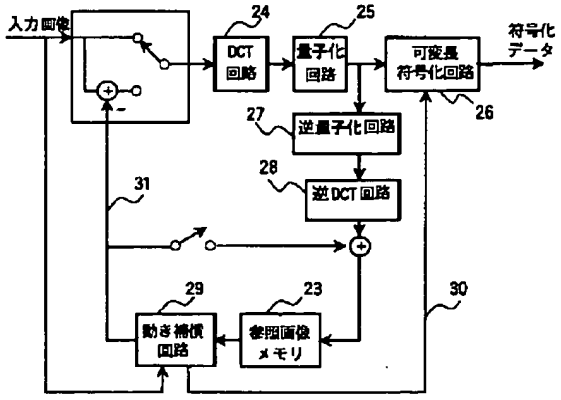
【図3】　本発明の第1実施例に係る動画像符号化部の構成を示す図である。
【図4】　本発明と従来例の符号化処理の計算量を比較する図である。
【図5】　本発明に係るのデータ送出方法を説明する図である。
【図6】　本発明の第1実施例に係る復号化処理部の構成を示す図である。
【図7】　本発明の第1実施例に係る動画像復号化部の構成を示す図である。
【図8】　本発明に係る補完画像生成方法を説明する図である。
【図9】　本発明の第1実施例に係る動画像補完部の構成を示す図である。
【図10】　本発明の第2実施例に係る復号化処理部の構成を示す図である。
【図11】　本発明の第2実施例に係る動画像復号化部の構成を示す図である。
【図12】　本発明の第3実施例に係る動画像符号化部の構成を示す図である。
【図13】　本発明の第3実施例に係る動画像復号化部の構成を示す図である。
【図14】　MCUを用いた従来の多地点会議システムの構成を説明する図である。
【図15】　MCUを用いた従来の多地点会議システムの表示画面を示す図である。
【図16】　MCUを用いない従来の多地点会議システムの構成を説明する図である。
【図17】　MCUを用いない従来の多地点会議システムの表示画面を示す図である。

【符号の説明】
1・・・会議端末、　8・・・ビデオカメラ、　9・・・マイク、　11・・・第1の解像度変換部、　12・・・第2の解像度変換部、　13・・・第3の解像度変換部、　14・・・解像度指定部、　15・・・第1のフレーム選択スイッチ、　16・・・第2のフレーム選択スイッチ、　17・・・第1の解像度の動画像、　18・・・第2の解像度の動画像、　19・・・第3の解像度の動画像、　20・・・第1の動画像符号化部、　21・・・第2の動画像符号化部、　22・・・第3の動画像符号化部、　23・・・参照画像メモリ、　24・・・DCT回路、　25・・・量子化回路、　26・・・可変長符号化回路、27・・・逆量子化回路、　28・・・逆DCT回路、　29・・・動き補償回路、　30・・・動きベクトル、　31・・・予測画像、　32・・・第1の解像度の画像の符号化処理量、　33・・・第2の解像度の画像の符号化処理量、34・・・第3の解像度の画像の符号化処理量、　39・・・第1の動画像データ、　40・・・第2の動画像データ、　41・・・第3の動画像データ、　42・・・データ分離部、　43・・・第1の動画像復号化部、　44・・・ディスプレイ、　45・・・可変長復号化回路、　49・・・第2の動画像復号化部、　50・・・第3の動画像復号化部、　51・・・第1の動画像補完部、　52・・・フレームメモリ、　53・・・画像ブロック化部、　54・・・平均値算出部、　55・・・比較器、　56・・・セレクタ、

【図1】



【図3】



L30: Entry 12 of 24 File: JPAB Mar 11, 1994

PUB-NO: JP406070315A
DOCUMENT-IDENTIFIER: JP 06070315 A
TITLE: VIDEO TELEPHONE SET

PUBN-DATE: March 11, 1994

INVENTOR-INFORMATION:

NAME	COUNTRY
KUBOTA, TOMOKI	

ASSIGNEE-INFORMATION:

NAME	COUNTRY
KK A W NEW HARD	

APPL-NO: JP04245491
APPL-DATE: August 21, 1992

US-CL-CURRENT: 348/14.01
INT-CL (IPC): H04N 7/14; H04N 5/262

ABSTRACT:

PURPOSE: To provide the video telephone set on which picture data are displayed through magnification/reduction without use of a special device.

CONSTITUTION: A video telephone set being a sender of picture data fetches picture data of 1/4 region shown in hatched lines in figure (a) from picture data of a full-size pattern picked up by a camera 16 without thinning a picture compression section 342 compresses the picture data and the compressed data are sent to a communication opposite party via a communication control section 33 and an ISDN line. On the other hand, upon the receipt of the compressed picture data as to the 1/4 region, the video telephone set being a receiver applies picture reproduction about the thinned picture data to be compressed and processed. The picture data of a prescribed region fetched by the sender are displayed on the display device fully on its screen as shown in hatched line data shown in figure (b).

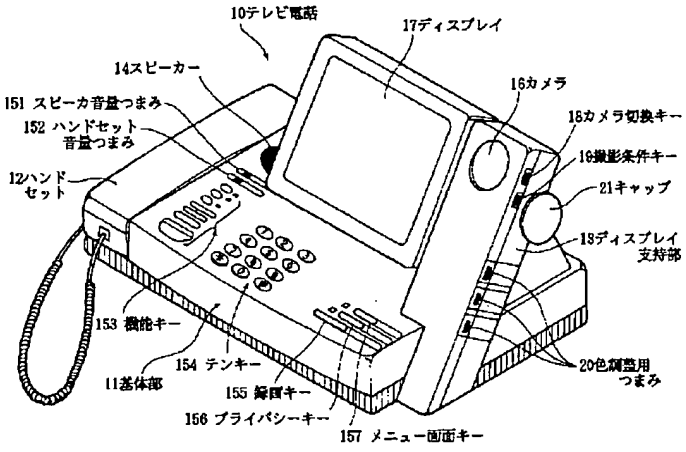
17

13　ディスプレイ支持部
14　スピーカー
15　操作キー
16　カメラ
17　ディスプレイ
18　カメラ切換キー
19　撮影条件切換キー
20　色調整用つまみ
21　キャップ
25　VTR接続端子
31　中央処理部
311　CPU
312　メモリ
32　ISAバス
33　通信制御部

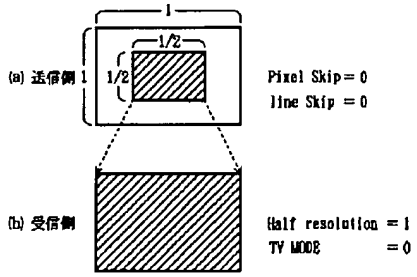
18

34　画像処理部
341　画像再生部
341a　FIFOメモリ
341b　ハフマン符号化部
341c　ブロックメモリ
341d　圧縮再生部
342　画像圧縮部
342a　設定パラメータ記憶部
342b　ブロックメモリ
342c　圧縮部
342d　ハフマン符号化部
342e　バッファメモリ
36　D／A変換部
37　画像合成部
38　オーディオコントロール部

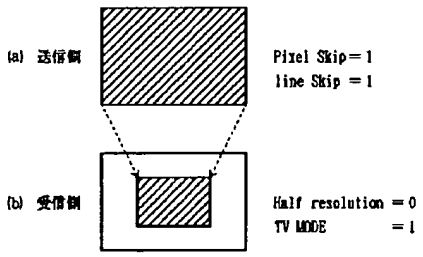
【図1】



【図8】



【図10】



【図6】

	送信側		受信側	
	Pixel Skip	line Skip	Half resolution	TV MODE
(a)	0 (OFF)	0	0	1
(b)	1 (ON)	1	1	0
(c)	1	0	1	1
(d)	0	1	0	0

WEST

End of Result Set

Generate Collection Print

L13: Entry 1 of 1 File: JPAB Apr 13, 2001

PUB-NO: JP02001103438A
DOCUMENT-IDENTIFIER: JP 2001103438 A
TITLE: VIDEO COMMUNICATION TERMINAL

PUBN-DATE: April 13, 2001

INVENTOR-INFORMATION:

NAME	COUNTRY
YAMAMOTO, TOSHIFUMI	

ASSIGNEE-INFORMATION:

NAME	COUNTRY
TOSHIBA CORP	

APPL-NO: JP11276831
APPL-DATE: September 29, 1999

INT-CL (IPC): H04 N 7/14; H04 N 5/232

ABSTRACT:

PROBLEM TO BE SOLVED: To provide a video communication terminal, that can pick up an image with a preferable field angle in a selected direction, even in the case of image-pickup while selecting the image pickup direction of an image-pickup section.

SOLUTION: When a image pickup with a camera 10 is directed toward a display section 40 that is the user side, a control section 100 instructs a field angle switching processing section 20 to convert data of a CIF format, which are picked up by the camera 10 and thinned to be wide-angled picked-up data, into data of a QCIF format. In the case of image pickup with the camera 10 directed toward a side opposite to the user side, the control section 100 instructs the field angle switching processing section 20 to convert data with a CIF format, which are picked up by the camera 10 and thinned to be narrow-angled picked-up data, into data with the QCIF format.

WEST

Generate Collection Print

L2: Entry 2 of 6 File: EPAB Jan 29, 1997

PUB-NO: EP000756426A2
DOCUMENT-IDENTIFIER: EP 756426 A2
TITLE: Specified image-area extracting method and device for producing video information

PUBN-DATE: January 29, 1997

INVENTOR-INFORMATION:

NAME	COUNTRY
TOMIZAWA, NAOKI	JP

ASSIGNEE-INFORMATION:

NAME	COUNTRY
SHARP KK	JP

APPL-NO: EP96305514
APPL-DATE: July 26, 1996

PRIORITY-DATA: JP19387095A (July 28, 1995)

INT-CL (IPC): H04 N 9/64; H04 N 7/15
EUR-CL (EPC): H04N009/64; G06K009/00, H04N007/14 , H04N007/26 , H04N007/26 , H04N009/64

ABSTRACT:

CHG DATE=19990617 STATUS=O> A face (skin color) area of a person is extracted at a minimized error irrespective of different skin colors of the human races. A hue value calculating portion (1) determines a hue value from an input image (RGB signal). A primary discriminating portion (2) extracts pixels whose hue value lies in a specified range defined by limiting values outputted from a control portion (5). A pixel-counting portion (3) counts the extracted pixels. The control portion (5) selects a threshold value for extracting a face area according to the count of the extracted pixels and outputs the threshold value to a face-area extracting portion (4) which in turn extracts a face area according to the threshold value. The method and device are usable for video processing device, e.g. for producing video information suitable to use in video telephones and video conferences.

WEST

End of Result Set

Generate Collection Print

L31: Entry 1 of 1 File: JPAB Dec 6, 1994

PUB-NO: JP406339056A
DOCUMENT-IDENTIFIER: JP 06339056 A
TITLE: VIDEO CAMERA DRIVING DEVICE

PUBN-DATE: December 6, 1994

INVENTOR-INFORMATION:
NAME COUNTRY
NODA, HIROYASU
YAMADA, YOICHI

ASSIGNEE-INFORMATION:
NAME COUNTRY
OKI ELECTRIC IND CO LTD

APPL-NO: JP05128667
APPL-DATE: May 31, 1993

INT-CL (IPC): H04N 5/232; H04N 7/15; H04N 7/18

ABSTRACT:

PURPOSE: To provide a video camera driving device which is capable of automatically tracking an object without requiring a thermally-sensitive sensor such as an infrared ray camera, etc.

CONSTITUTION: When a part of video (for instance, a part of the face of a speaker) displayed on a speaker display monitor 5 is desigated as a noted area, the motion vector of this area is calculated as an area specific vector and area specific vector information S14 showing this vector is supplied to a control angle arithmetic part 15. Thus, the area specific vector information S14 is converted into angle vector information S15 showing the angles in the horizontal direction and vertical direction of a camera fixing base. Next, a camera fixing base driving part 3 changes the angles in the horizontal direction and vertical direction of the camera fixing base in accordance with each angle vector information S15. As a result, the angle of a video camera 4 is controlled by following up the motion of the speaker and the video of the speaker is displayed at the center of the monitor 5.

ある。

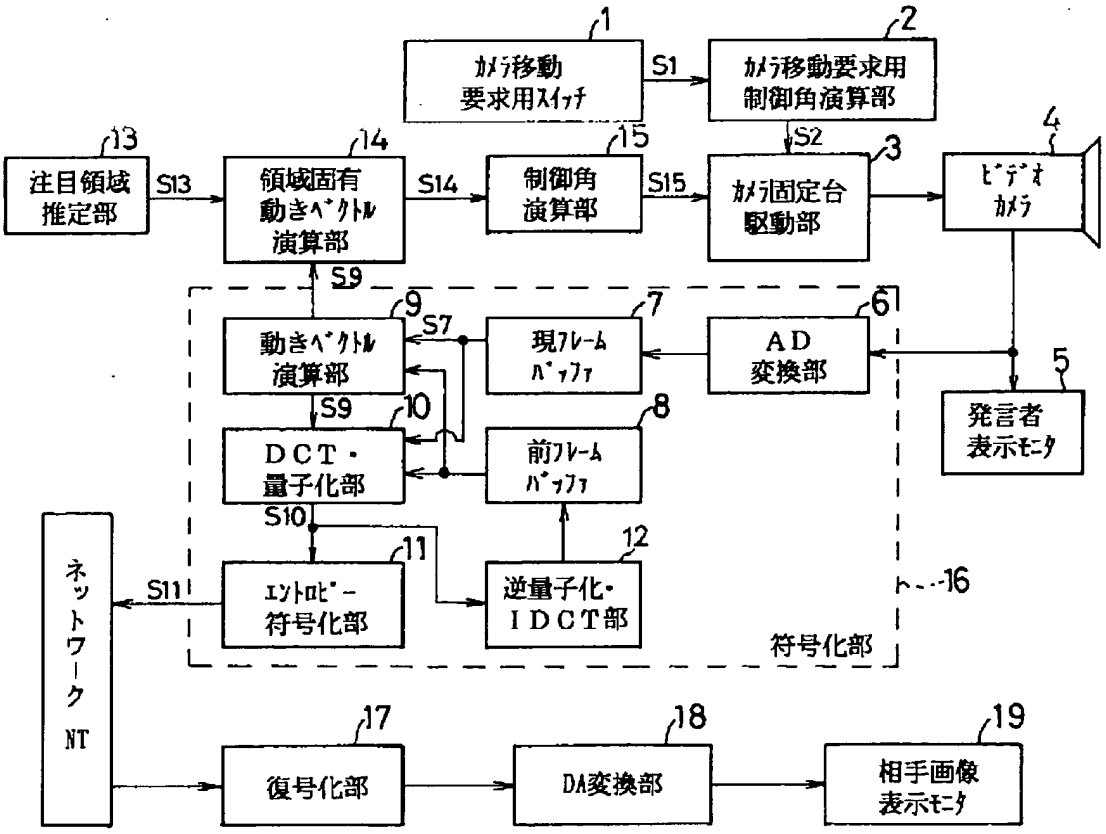
【図2】同実施例における注目領域の設定を示す概略図である。

【図3】同実施例における動きベクトルの算出過程を示す概念図である。

【符号の説明】

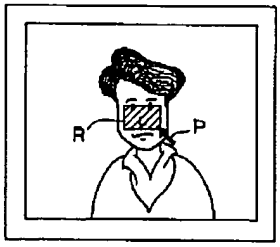
1…カメラ移動要求用スイッチ、2…カメラ移動要求用制御角演算部、3…カメラ固定台駆動部、4…ビデオカメラ、5…発言者表示モニタ、6…AD変換部、7…現フレームバッファ、8…前フレームバッファ、9…動きベクトル演算部、10…DCT・量子化部、11…エントロピー符号化部、12…逆量子化・IDCT部、13…注目領域指定部、14…領域固有ベクトル演算部、15…制御角演算部、16…符号化部、17…復号化部、18…DA変換部、19…相手画像表示モニタ。

【図1】



一実施例のブロック図

【図2】



注目領域の設定図

WEST

Generate Collection Print

L16: Entry 12 of 29 File: DWPI Nov 30, 1999

DERWENT-ACC-NO: 2000-082625
DERWENT-WEEK: 200007

TITLE: Video camera for video conference system, monitor TV apparatus of remote conference hall - picks up image of speaker using tracked information indicating direction of speaker's position and generates video signal

PATENT-ASSIGNEE: FUJITSU LTD (FUIT)

PRIORITY-DATA: 1998JP-0128836 (May 12, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 11331827 A	November 30, 1999		015	H04N007/18

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
JP 11331827A	May 12, 1998	1998JP-0128836	

INT-CL (IPC): G06 T 1/00; H04 N 5/225; H04 N 5/232; H04 N 5/268; H04 N 7/15; H04 N 7/18

ABSTRACTED-PUB-NO: JP 11331827A
BASIC-ABSTRACT:

NOVELTY - The video camera (10) is equipped with fish-eye or super-wide angle lens (11) at center, CCD image-pick-up unit (13) and non-directional microphones (12) at periphery. Direction of speaker's position is judged and tracked. The image of speaker is taken using the tracked information and a video signal is generated.

USE - For video conference system, monitor TV apparatus of remote conference hall.

ADVANTAGE - Even when audio generation is performed in a video conference, a person is tracked with stability. Offers compact and simple camera which does not produce odd feeling to conference participant. DESCRIPTION OF DRAWING(S) - The figure shows the component and usage situation of video camera. (10) Video camera; (11) Lens; (12) Non-directional microphone; (13) CCD Image-pick-up unit.

ABSTRACTED-PUB-NO: JP 11331827A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1/13

DERWENT-CLASS: T01 W02 W04
EPI-CODES: T01-J10; W02-F01; W02-F08A; W04-M01; W04-M01D; W04-N05B5;

WEST

Generate Collection Print

L16: Entry 13 of 29 File: DWPI Nov 5, 1999

DERWENT-ACC-NO: 2000-046504
DERWENT-WEEK: 200009

TITLE: Automatic target object tracking apparatus for camera used in video conference system - has zoom controller which adjusts zoom lens, so that search area of camera is increased, when camera reaches rotation limit due to driving of tilt controller

PATENT-ASSIGNEE: SAMSUNG ELECTRONICS CO LTD (SMSU)

PRIORITY-DATA: 1998JP-0109756 (April 20, 1998), 1998CN-0106962 (April 16, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 11308517 A	November 5, 1999		010	H04N005/232
CN 1232197 A	October 20, 1999		000	G05G019/00

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
JP 11308517A	April 20, 1998	1998JP-0109756	
CN 1232197A	April 16, 1998	1998CN-0106962	

INT-CL (IPC): G02 B 7/28; G03 B 13/36; G03 B 15/00; G03 B 17/56; G05 D 3/00; G05 G 19/00; H04 N 5/232; H04 N 7/18

ABSTRACTED-PUB-NO: JP 11308517A
BASIC-ABSTRACT:

NOVELTY - A tilt controller (5), controls the rotation of a camera (1), so that activity of a photographed object detected by comparing current video output of camera and former video output, is compensated. If the rotation of the camera reaches a limit, a zoom controller (6), adjusts a zoom lens, so that search area of the camera is increased, and performs automatic focus alignment based on brightness of obtained video.

USE - For camera used in video conference system.

ADVANTAGE - The search area of the camera is increased if the rotation of the camera reaches a predetermined limit, thus photographed object can be tracked in comparatively large area. DESCRIPTION OF DRAWING(S) - Figure shows the block diagram of the camera with automatic photographed object tracking apparatus. (1) Camera; (5) Tilt controller; (6) Zoom controller.

ABSTRACTED-PUB-NO: JP 11308517A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1/8

DERWENT-CLASS: P81 P82 T06 W02 W04
EPI-CODES: T06-B02; W02-F01; W04-M01D;

WEST

Generate Collection Print

L16: Entry 17 of 29 File: DWPI Nov 28, 1997

DERWENT-ACC-NO: 1998-070061
DERWENT-WEEK: 199808

TITLE: Automatic camera direction controller for video conference system - controls position of camera based on light positions detected by light position detector

PATENT-ASSIGNEE: NEC CORP (NIDE)

PRIORITY-DATA: 1996JP-0121229 (May 16, 1996)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 09307870 A	November 28, 1997		010	H04N007/15

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
JP 09307870A	May 16, 1996	1996JP-0121229	

INT-CL (IPC): H04 M 3/56; H04 N 5/232; H04 N 7/15; H04 N 7/18

ABSTRACTED-PUB-NO: JP 09307870A
BASIC-ABSTRACT:

The controller controls the direction of camera which tracks the image of participants based on light emitted by a pair of light emitting devices (1a,1b) mounted on the participants. An outline extract circuit (6) analyses the image detected by the camera and compares with a standard outline data stored in the memory.

A light position detector (5) detects the position of the light emitting device based on image from the camera. Based on the positions of the light emitting device detected by the light positions detector, the position of the camera is controlled by a directional controller (7).

ADVANTAGE - Improves versatility. Reduces work load of installation work.

ABSTRACTED-PUB-NO: JP 09307870A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1/4

DERWENT-CLASS: W02 W04 W06
EPI-CODES: W02-F08A3; W04-M01D2C; W06-A02C;

WEST

Generate Collection Print

L16: Entry 24 of 29 File: DWPI Apr 7, 1995

DERWENT-ACC-NO: 1995-174501
DERWENT-WEEK: 199523

TITLE: Target or subject tracking device for television camera for video conference system - has camera control part which controls camera position and positions object inside screen

PATENT-ASSIGNEE: SONY CORP (SONY)

PRIORITY-DATA: 1993JP-0261613 (September 25, 1993)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 07095462 A	April 7, 1995		008	H04N005/232

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
JP 07095462A	September 25, 1993	1993JP-0261613	

INT-CL (IPC): G06 T 1/00; H04 N 5/232; H04 N 7/18; H04 N 9/64

ABSTRACTED-PUB-NO: JP 07095462A
BASIC-ABSTRACT:

The device includes a TV camera (10) which inputs an image signal. The signal is digitized and filtered by a low pass filter (11). The noise component in the image is removed. The image is stored with predetermined delay in a memory control block (13). A changed part extraction circuit extracts the changed part in each pixel of the stored image. The extracted parts are integrated in the vertical level and direction.

A micro computer (14) computes the centre of gravity in the vertical direction. The computation follows the centre of gravity of extracted parts in vertical level and direction. A camera control part controls the image pick-up position of TV camera and positions the object in the core of the screen.

USE/ADVANTAGE - For use in security camera, video conference system. Avoids incorrect operation by controlling motor and tracks object reliably.

ABSTRACTED-PUB-NO: JP 07095462A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1/4

DERWENT-CLASS: W02 W04
EPI-CODES: W02-F01A; W04-M01D2C; W04-M01D6;

WEST

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L1: Entry 46 of 47 File: JPAB May 17, 1989

PUB-NO: JP401125085A
DOCUMENT-IDENTIFIER: JP 01125085 A
TITLE: IMAGE INFORMATION TRANSMISSION EQUIPMENT

PUBN-DATE: May 17, 1989

INVENTOR-INFORMATION:
NAME COUNTRY
HAYAFUCHI, TSUTOMU

ASSIGNEE-INFORMATION:
NAME COUNTRY
MATSUSHITA ELECTRIC IND CO LTD

APPL-NO: JP62282470
APPL-DATE: November 9, 1987

INT-CL (IPC): H04N 7/137

ABSTRACT:

PURPOSE: To extract and transmit only the image of the figure of a person having the body temperature in case of applying, for instance, to a video telephone set, and to shorten the transmission time by transmitting the image information of an object whose temperature is above a prescribed value selectively.

CONSTITUTION: A thermal detector 1 and a video camera 2 are so constituted as to pick up an image at the same image pickup range provided in the vicinity. An analog signal from the camera 2 is converted to a digital signal by a video signal A/D converter 3, and the digital signals are stored sequentially in a semiconductor memory 5. Also, image information representing the thermal distribution obtained by the detector 1 is converted to digital information by a conversion device 4, and stored in a semiconductor memory 8. A microcomputer 6 can know the temperature of the respective parts of the image information stored in the memory 5 from the memory 8, and issues an instruction to a memory transfer equipment 7 to transfer only the image information (for instance, the person's figure in the oblique line zone) in a part where the temperature is above the prescribed value from the memory 5 to a transmission equipment 9.

⑲日本国特許庁（JP）　⑪特許出願公開

⑫公開特許公報（A）　平1－125085

⑤1Int.Cl.⁴	識別記号	庁内整理番号	⑬公開　平成1年(1989)5月17日
H 04 N 7/137		Z－6957－5C	

審査請求　未請求　発明の数 1　（全3頁）

⑤4発明の名称　画像情報伝送装置

⑳特　願　昭62－282470

㉒出　願　昭62(1987)11月9日

⑦2発明者　早　渕　　努　香川県高松市寿町2丁目2番10号　松下寿電子工業株式会社内

⑦1出願人　松下電器産業株式会社　大阪府門真市大字門真1006番地

⑦4代理人　弁理士　中尾　敏男　外1名

明　細　書

1、発明の名称

画像情報伝送装置

2、特許請求の範囲

撮像範囲の被写体を映像信号に変換する撮像手段と前記撮像範囲の被写体の熱分布を示す像を得る熱感知手段と、その熱分布を示す像の予じめ定められた温度以上の区郭に対応する区郭の前記映像信号を描出して選択的に伝送する伝送手段より成る画像情報伝送装置。

3、発明の詳細な説明

産業上の利用分野

本発明はビデオカメラにより撮像された画像情報を電話線等の狭帯域の伝送路を通して伝送する場合に効果的な画像情報伝送装置に関するものである。

従来の技術

近年、ディジタル信号処理，通信工学の発展により、電話線等の狭帯域の伝送路を使用した画像情報の伝送も可能となってきた。又、ＩＳＤＮをはじめとする各種サービスにおいても画像情報の伝送は不可欠のものとなっている。

発明が解決しようとする問題点

しかしながら、画像情報は膨大であり、その伝送にはかなりの時間が必要とされている。この問題を解決するために帯域圧縮などの画像処理システムの研究がなされている。しかし伝送時間の短縮には全画像情報のうち伝送の必要性があるものとないものとを分け、必要な情報のみを伝送することも有効な手段である。

本発明はこの点に着目した画像情報伝送装置を提供するものである。

問題点を解決するための手段

本発明の画像情報伝送装置は、撮像範囲の被写体を映像信号に変換する撮像手段と、前記撮像範囲の被写体の熱分布を示す像を得る熱感知手段と、この熱分布を示す像の予じめ定められた温度以上の区郭に対応する区郭の前記映像信号を描出して選択的に伝送する伝送手段よりなる。

作　用

前記構成によれば温度が予じめ定められた温度以上の被写体の画像情報が選択的に伝送されることとなり、例えばテレビジョン電話に適用した場合、体温を有する人物像が抽出して送られることとなり、伝送時間の短縮につながるものである。

実施例

以下本発明の実施例の画像情報伝送装置について、図面を参照しながら説明する。

第３図は、テレビジョン電話においてビデオカメラ１の前に人間が立ち撮像された情報が伝送路を経由し、他方のモニタ２に写し出された図である。モニタを見る者にとって必要な情報は顔の部分であり、背景（第３図斜線部）の情報の必要性は一段と低いものとなる。第１図において、１は被写体の熱分布を検出する熱検知装置であり、２はビデオカメラであり、この両者は近接して設けられた同一撮像範囲を撮像するよう構成されている。そしてビデオカメラ２より出るアナログ信号の映像信号をＡ／Ｄ変換器３によってディジタル信号に変換し半導体メモリー５に順次格納する。

又、前記熱検知装置１によって得られた熱分布を示す画像情報は変換装置４によってディジタル情報に変換され半導体メモリー８に格納される。即ち半導体メモリー５に格納されている画像情報と半導体メモリー８に格納されている熱分布を示す情報の縦軸，横軸は一致しており、マイクロコンピュータ６はメモリー５に格納された画像情報の各部分の温度をメモリー８より知ることができる。

カメラ２の前に人が立った時に得られたビデオカメラ２からの画像情報（半導体メモリー５に格納されている）と熱検知装置１より得られた情報（半導体メモリー８に格納されている）を第２図イ，ロに示す。第２図ロの斜線部分はあらかじめ設置しておいた温度しきい値以上の部分である。マイクロコンピュータ６はこの温度の高い箇所に人物の情報が記録されていると判断する。そしてこの区郭に対応する第２図イの区郭のみの情報をメモリー５から送出装置９に転送するようにメモリー転送装置７に指令を出す。

これにより人物部の情報のみを伝送することが可能となる。

発明の効果

以上のように本発明によればビデオカメラによって撮像された映像信号の内の人物に相当する区郭を選択的に抽出して伝送できるため、テレビジョン電話等の狭帯域の伝送路を使用して画像を伝送する場合、その伝送時間の短縮を行うことができる。尚、記憶装置を用いているので必要があれば輪郭内部を伝送した後に背景部分も伝送することも可能である。

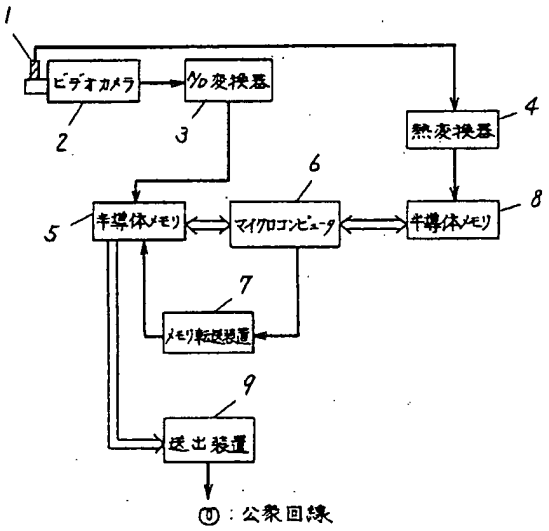
４．図面の簡単な説明

第１図は本発明の画像情報伝送装置の実施例を示すブロック図、第２図および第３図はそれぞれその動作説明のための画像を示す図である。

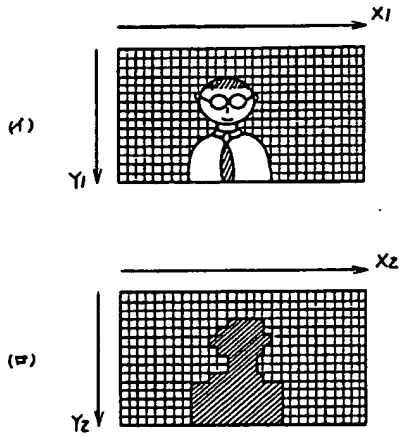
１……熱検知器、２……ビデオカメラ、３……アナログ／ディジタル変換器、４……熱交換器、５……半導体メモリー、６……マイクロコンピューター、７……メモリー転送装置、８……半導体メモリー、９……情報伝送装置。

代理人の氏名　弁理士　中　尾　敏　男　ほか１名

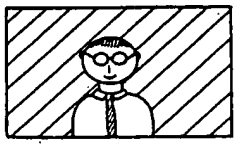
第１図



第 2 図



第 3 図



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L1: Entry 9 of 47 File: JPAB Jan 16, 1998

PUB-NO: JP410013799A
DOCUMENT-IDENTIFIER: JP 10013799 A
TITLE: VIDEO TELEPHONE SET

PUBN-DATE: January 16, 1998

INVENTOR-INFORMATION:

NAME	COUNTRY
TSUCHIYA, TAKASHI	

ASSIGNEE-INFORMATION:

NAME	COUNTRY
KK MEGA CHIPS	

APPL-NO: JP08158282
APPL-DATE: June 19, 1996

INT-CL (IPC): H04 N 7/14

ABSTRACT:

PROBLEM TO BE SOLVED: To display a specific pattern on a background by distinguishing the background from a portrait.

SOLUTION: A background extract section 2 divides an image pickup image caught by a camera 1 into blocks arranged as a matrix and each block is selected into an object block with a large motion between frames and a background block with a small motion between frames. A data synthesis section 7 sends a signal used to identify the object block and the background block to a communication line L with a compressed image signal of the object block. Conversely, when the data signal of this form is received, an image data expansion section 6 expands the compression image signal and an image synthesis section 22 assigns a specific background pattern signal to the background block. A monitor 24 receives a signal being a synthesis of an image signal of the object block and a background pattern signal of the background block, then the image of the object block, that is, the image of a portrait is sharply reproduced and the image of the background block, that is, the background image is displayed in a specific pattern.

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【図7】　実施の形態1の背景抽出部の別のフローチャートである。
【図8】　実施の形態1の画像データ圧縮部のフローチャートである。
【図9】　実施の形態1の装置の動作説明図である。
【図10】　実施の形態1の装置のデータ信号の構造図である。
【図11】　実施の形態1の画像データ伸張部のフローチャートである。
【図12】　実施の形態2の装置のブロック図である。
【図13】　実施の形態2の装置の動作説明図である。
【図14】　実施の形態2の装置のデータ信号の構造図である。
【図15】　実施の形態2の別の装置のブロック図である。
【図16】　実施の形態3の装置のブロック図である。
【図17】　実施の形態3の装置の動作説明図である。
【図18】　実施の形態3の画像データ圧縮部のフローチャートである。
【図19】　実施の形態3の間引き部15の動作説明図である。
【図20】　実施の形態3の装置の動作説明図である。
【図21】　実施の形態3の装置のデータ信号の構造図である。
【図22】　実施の形態4の装置のブロック図である。
【図23】　実施の形態4の装置の動作説明図である。
【図24】　実施の形態3の装置のデータ信号の構造図である。
【図25】　実施の形態4の装置の動作説明図である。

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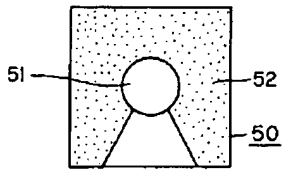
【図26】　実施の形態5の装置のブロック図である。
【図27】　実施の形態5の装置のデータ信号の構造図である。
【図28】　実施の形態6の装置のブロック図である。
【図29】　実施の形態6の装置の動作説明図である。
【図30】　実施の形態6の装置のデータ信号の構造図である。
【図31】　実施の形態6の装置のデータ信号の構造図である。
【図32】　実施の形態6の装置のデータ信号の構造図である。
【図33】　従来の装置のブロック図である。
【図34】　従来の装置の動作説明図である。

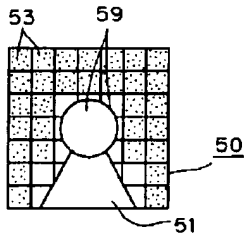
【符号の説明】

2，18　背景抽出部
4，4a，4b　量子化テーブル記憶部
5，18，82　画像データ圧縮部
6，20，20a，20b，83　画像データ伸張部
7，71，73，75，77　データ合成部
14，22，33　画像合成部
15　間引き部
16，72，74，76，78　データ分離部
10　音声認識部
11　音声データ圧縮部
12，21　フォントジェネレータ
23　データ切換部
25　音声データ伸張部
31　ぼかしフィルタ
34　音声生成部

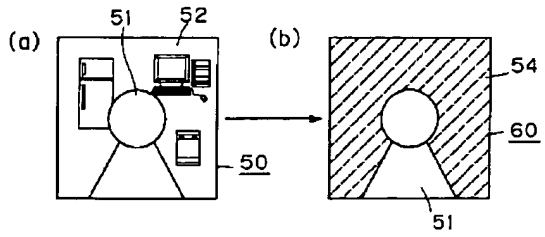
【図2】



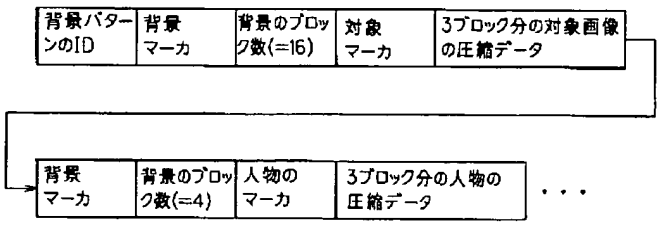
【図3】



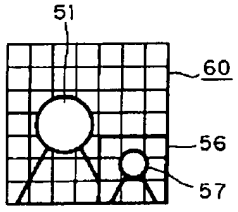
【図4】



【図10】



【図17】



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Generate Collection Print

L1: Entry 32 of 47 File: JPAB Sep 4, 1992

PUB-NO: JP404248791A
DOCUMENT-IDENTIFIER: JP 04248791 A
TITLE: VIDEO TELEPHONE SYSTEM

PUBN-DATE: September 4, 1992

INVENTOR-INFORMATION:
NAME COUNTRY
WADA, TAKESHI

ASSIGNEE-INFORMATION:
NAME COUNTRY
SHARP CORP

APPL-NO: JP03035555
APPL-DATE: February 4, 1991

INT-CL (IPC): H04N 7/14; H04M 11/06

ABSTRACT:

PURPOSE: To delete a background from a pattern picked up by a camera, to extract a picture desired to be sent and to send the picture.

CONSTITUTION: The video telephone system is provided with a 1st memory (4) storing a background picture picked up in advance and a 2nd memory (5) storing a picture picked up together with the picture desired to be sent. The contents of both the memories are outputted to an arithmetic circuit (8) and compared, the unmatched part is used as data and the matched part is used as a background and they are converted to, e.g. a same color signal different from the picked-up picture. A signal having a picture data in the background signal is outputted from the arithmetic circuit (8), stored in a 3rd memory (9) and sent while being converted to a signal suitable for transmission by an interface circuit (11).

WEST

Generate Collection Print

L1: Entry 18 of 47 File: JPAB Sep 26, 1995

PUB-NO: JP407250272A
DOCUMENT-IDENTIFIER: JP 07250272 A
TITLE: IMAGE PROCESSOR

PUBN-DATE: September 26, 1995

INVENTOR-INFORMATION:
NAME COUNTRY
TANAKA, SUSUMU
OKAMOTO, SADAJI
KUDO, YOSHIMICHI

ASSIGNEE-INFORMATION:
NAME COUNTRY
HITACHI LTD

APPL-NO: JP06040711
APPL-DATE: March 11, 1994

INT-CL (IPC): H04 N 5/232

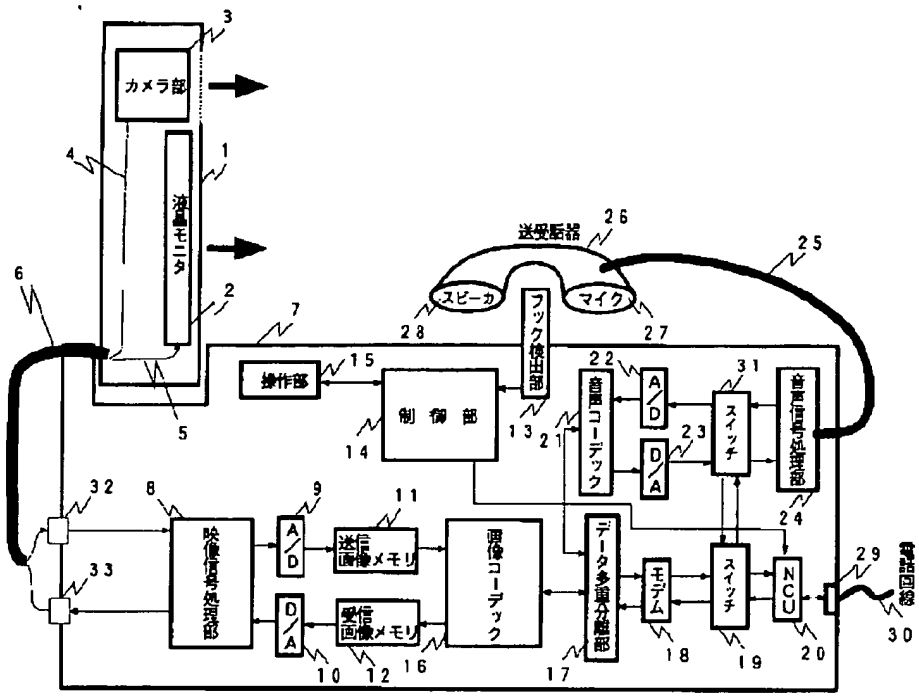
ABSTRACT:

PURPOSE: To provide technique for extracting only a human body from a photographed image so that the quantity of information to be transmitted can be reduced as much as possible or psychological problem not to desire the observation of background can be canceled in the case of transmitting the image signal while compressing and encoding only the human body part for a video telephone or the like.

CONSTITUTION: The figure shows the block chart of a camera part 3, the data of RGB components photographed by a CCD 37 are stored in an RGB memory 41, and the data of an infrared component are binarized by a binarizing memory 48 and stored in an I memory 42 later. Only when the value of the I memory 42 is a prescribed value, a read control part 43 reads the data from the RGB memory 41 but when it is any value excepting for the prescribed value, the data are outputted while replacing that value with any fixed value.

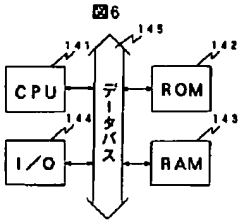
【図1】

図1



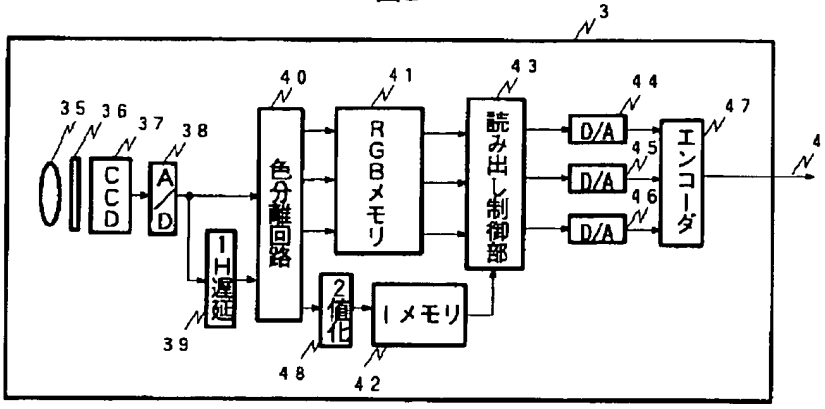
【図6】

図6



【図2】

図2



WEST

Generate Collection Print

L1: Entry 25 of 47 File: JPAB Aug 19, 1994

PUB-NO: JP406233292A
DOCUMENT-IDENTIFIER: JP 06233292 A
TITLE: PICTURE SIGNAL TRANSMITTING DEVICE

PUBN-DATE: August 19, 1994

INVENTOR-INFORMATION:
NAME COUNTRY
HAYASHI, YOSHINOBU
KUBOTA, ICHIRO

ASSIGNEE-INFORMATION:
NAME COUNTRY
SONY CORP

APPL-NO: JP05032571
APPL-DATE: January 29, 1993

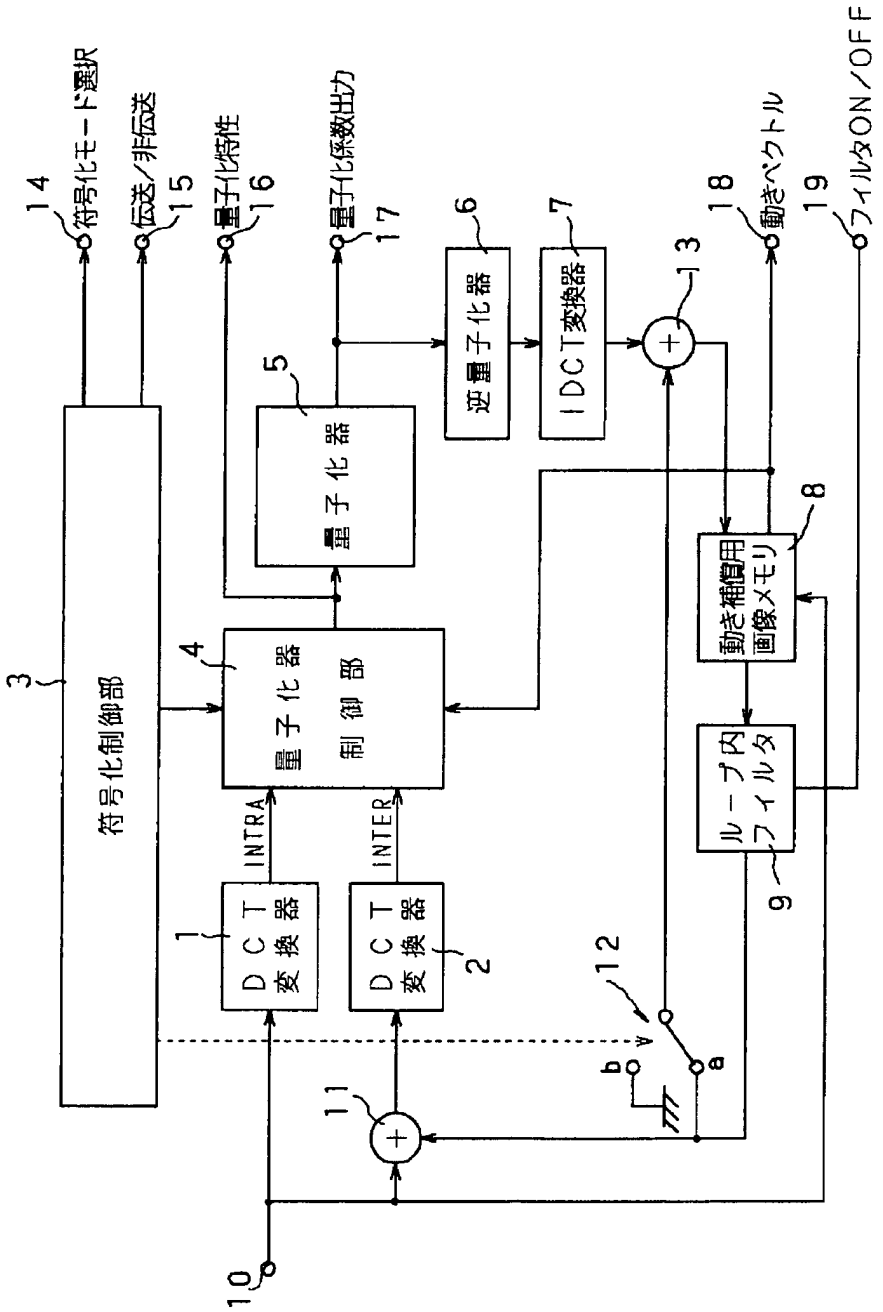
INT-CL (IPC): H04N 7/14; H04N 7/13

ABSTRACT:

PURPOSE: To obtain picture quality which sufficiently fulfills a function as a video telephone even at the same transmission bit rate as the conventional one by preferentially assigning transmission information quantity to the face area of a person, specially, an eye part.

CONSTITUTION: In addition to the standard information source coder of H.261, a picture signal transmitting device is provided with a quantization equipment control part 4 which extracts the face area through the use of a macroblock from which a movement vector is detected, detects the eye part from within the face area through the use of a DCT output and lets a quantization step size for the eye area be small at the time of quantization by a quantization equipment 5. Then, transmission information quantity is preferentially assigned to the face part, specifically, eyes and a mouth, being more important information for the other reception party so as to make picture quality superior. Transmission information quantity is preferentially assigned to the face area, specifically, the eye part, of the person and transmission to let the picture quality of the face area, specifically, the eye area, be high quality can be enabled. Therefore, even in low bit rate transmission, the subjectively preferable picture for which an expression is easy to be understood is obtained.

【図1】


符号化制御部
量子化制御部
量子化器
逆量子化器
IDCT変換器
DCT変換器
DCT変換器
INTRA
INTER
動き補償用画像メモリ
ループ内フィルタ
符号化モード選択
伝送／非伝送
量子化特性
量子化係数出力
動きベクトル
フィルタON／OFF
a
b
v

WEST

Generate Collection Print

L1: Entry 33 of 47 File: JPAB Feb 25, 1992

PUB-NO: JP404057582A
DOCUMENT-IDENTIFIER: JP 04057582 A
TITLE: VIDEO TELEPHONE SET

PUBN-DATE: February 25, 1992

INVENTOR-INFORMATION:

NAME	COUNTRY
ABE, TOSHIO	

ASSIGNEE-INFORMATION:

NAME	COUNTRY
NEC CORP	

APPL-NO: JP02169101
APPL-DATE: June 27, 1990

INT-CL (IPC): H04N 7/14; H04N 5/272

ABSTRACT:

PURPOSE: To send the synthesis of its own video image and an optional background video image to a talker by providing a digital picture processing section, a ridge point extraction section, a memory and a background delete synthesis section to the telephone set.

CONSTITUTION: A background delete synthesis section 4 uses contour information from a ridge point extraction section 3 to clear a background picture data through the synthesis key entry from an operation section 11 and a picture sent from a video signal control section 16 is synthesized as a background picture. The synthesized picture data is modulated by a modulation section 5 and the result is sent to an opposite video telephone set via a communication control section 6 and a public telephone line 7. Thus, the opposite video telephone set can observe a video image of the talker while a background is synthesized thereon.

L1: Entry 15 of 47 File: JPAB Mar 22, 1996

PUB-NO: JP408079722A
DOCUMENT-IDENTIFIER: JP 08079722 A
TITLE: VIDEO TELEPHONE SYSTEM AND RECORDING AND REPRODUCING DEVICE

PUBN-DATE: March 22, 1996

INVENTOR-INFORMATION:
NAME COUNTRY
KUDO, YOSHIMICHI
NISHIMURA, RYUSHI
KINUGASA, TOSHIRO
WATABE, YUMIKO

ASSIGNEE-INFORMATION:
NAME COUNTRY
HITACHI LTD

APPL-NO: JP06212326
APPL-DATE: September 6, 1994

INT-CL (IPC): H04 N 7/14; H04 N 5/765; H04 N 5/92

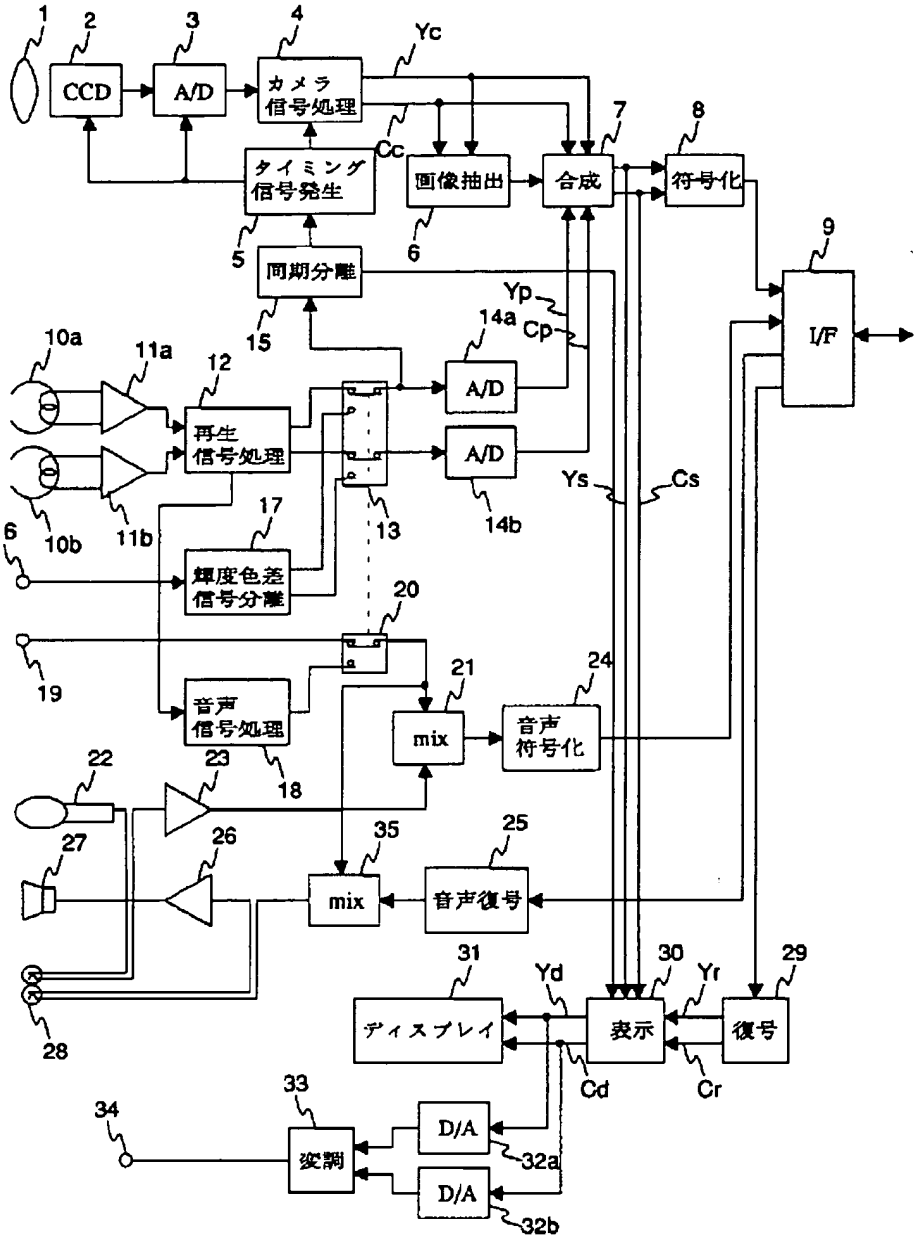
ABSTRACT:

PURPOSE: To make a user able to simultaneously transmit an explanation about the contents of pictures to an opposite party at the time of transmitting the pictures recorded on a medium such as a video tape or the like by using a video telephone.

CONSTITUTION: The shape of a specified object part such as a human body or the like is extracted from the pictures image picked up in a CCD 2 in a picture extraction circuit 6, the pictures from the CCD 2 extracted in the picture extraction circuit 6 are superimposed on the pictures reproduced from the video tape in a composite circuit 7, compression-encoding is performed in a picture encoding circuit 8 and transmission to the opposite party is performed. Sound gathered by a microphone 22 is mixed with sound signals reproduced from the video tape in a mixer circuit 21, compression-encoded in a sound encoding circuit 24 and transmitted.

【図1】

図 1


1
2
CCD
3
A/D
4
カメラ信号処理
Yc
Cc
タイミング信号発生
5
画像抽出
6
合成
7
符号化
8
同期分離
15
9
I/F
Yp
Cp
14a
A/D
10a
11a
12
再生信号処理
A/D
14b
Ys
Cs
10b
11b
13
16
17
輝度色差信号分離
20
19
音声信号処理
18
21
mix
音声符号化
24
22
23
27
26
35
mix
25
音声復号
31
Yd
30
Yr
29
ディスプレイ
表示
復号
28
Cd
Cr
33
34
変調
D/A
32a
D/A
32b

WEST

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L1: Entry 31 of 47 File: JPAB Nov 2, 1992

PUB-NO: JP404310086A
DOCUMENT-IDENTIFIER: JP 04310086 A
TITLE: VIDEO TELEPHONE SET

PUBN-DATE: November 2, 1992

INVENTOR-INFORMATION:

NAME	COUNTRY
WADA, TAKESHI	

ASSIGNEE-INFORMATION:

NAME	COUNTRY
SHARP CORP	

APPL-NO: JP03103796
APPL-DATE: April 8, 1991

INT-CL (IPC): H04N 7/14; H04M 11/06

ABSTRACT:

PURPOSE: To extract a picture desired to be sent from an image picked up by a camera together with a surrounding scene, to synthesize the picture desired to be sent onto a background picture registered in advance and to send the synthesized picture.

CONSTITUTION: A background picture is registered in a background picture memory 5 in advance, the picked-up surrounding scene is stored in a 1st memory 6 in advance and a picture pick-up including a picture desired to be sent is stored in a 2nd memory 7. Contents of the 1st and 2nd memories are outputted to an arithmetic circuit 9 and compared therein, an unequal part is used as a data and the equal part is discriminated to be the surrouding scene. The part of the surrouding scene is replaced with the content of the background picture memory 5 to form a synthesis picture and it is outputted from the arithmetic circuit 9, an interface circuit applies the conversion to the picture in a form suitable for the transmission and the result is sent.

L1: Entry 12 of 47 File: JPAB Dec 13, 1996

PUB-NO: JP408331535A
DOCUMENT-IDENTIFIER: JP 08331535 A
TITLE: INTER-MULTI-POINT COMMUNICATION SYSTEM

PUBN-DATE: December 13, 1996

INVENTOR-INFORMATION:
NAME COUNTRY
KAWASHIMA, MASANORI

ASSIGNEE-INFORMATION:
NAME COUNTRY
CANON INC

APPL-NO: JP07161385
APPL-DATE: June 5, 1995

INT-CL (IPC): H04 N 7/15; H04 M 3/56; H04 M 11/00

ABSTRACT:

PURPOSE: To provide an inter-multi-point communication system in which a current talker terminal equipment is accurately discriminated when the current talker terminal equipment is a telephone terminal equipment without video image capability.

CONSTITUTION: When a talker terminal equipment discrimination section 2 discriminates it that a current talker terminal equipment is a telephone terminal equipment without video image capability, a storage video image distribution section 3 extracts a storage video image corresponding to the talker terminal equipment from a video image storage section 4 and transfers the video image to a video synthesis section 6 to be distributed to a video telephone terminal equipment in inter-multi-point connection. The video synthesis section 6 overlays the stored video image distributed by the storage video image distribution section 3 onto a transmission video image together with information relating to the talker terminal equipment stored in a terminal equipment information storage section 5 and sends the result to a video coding decoding section 207 as a video signal. The video signal is coded by the video coding decoding section 207 and multiplexed in the unit of transmission frames by a multiplexer/ demultiplexer 210 and sent to a communication line via a line interface 12.

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【図3】多地点間通信システムの構成の一例を示す図である。

【図4】多地点間通信システムの構成の一例を示す図である。

【図5】話者端末装置が電話端末装置であるときにMCUから送信する映像の一例を示す図である。

【図6】同実施例に係る多地点間通信システムによる、話者端末装置の映像送信手順の一例を示すフローチャートである。

【符号の説明】

1　端末種別判別部（映像能力判別手段）

10

2　話者端末判別部（話者端末判別手段）

3　蓄積映像配信部（蓄積映像配信手段）

4　映像蓄積部（映像蓄積手段）

5　端末情報記憶部（端末情報記憶手段）

6　映像合成部（映像合成手段）

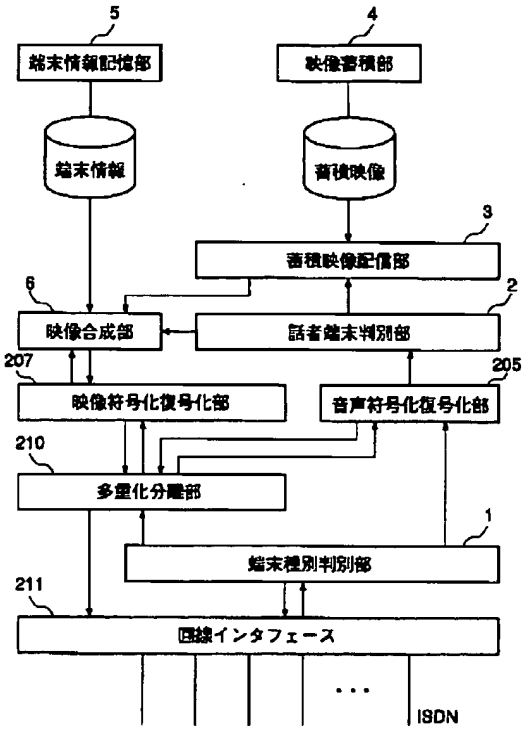
201　CPU（端末種別判別手段，話者端末判別手段，蓄積映像配信手段）

203　RAM（映像蓄積手段，端末情報記憶手段）

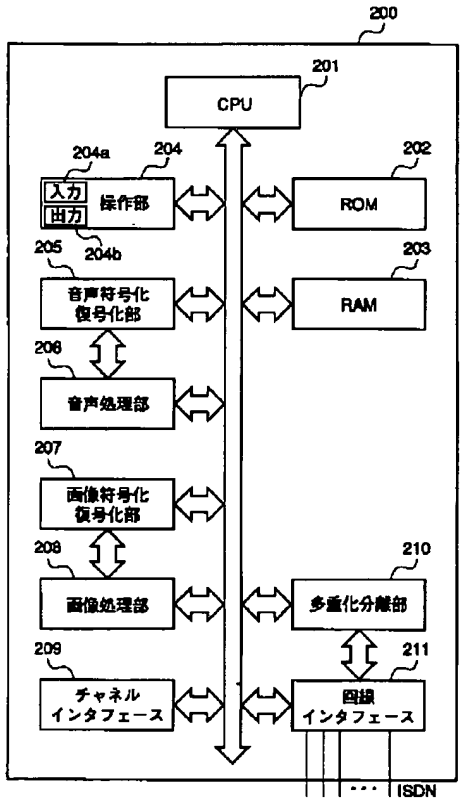
206　音声処理部（音声合成手段）

208　画像処理部（映像合成手段）

【図1】



【図2】



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L1: Entry 43 of 47 File: JPAB Feb 8, 1990

PUB-NO: JP402039690A
DOCUMENT-IDENTIFIER: JP 02039690 A
TITLE: STEREOSCOPIC VIDEO TELEPHONE SYSTEM

PUBN-DATE: February 8, 1990

INVENTOR-INFORMATION:

NAME	COUNTRY
MURAKAMI, SHINICHI	

ASSIGNEE-INFORMATION:

NAME	COUNTRY
NIPPON TELEGR & TELEPH CORP	

APPL-NO: JP63188319
APPL-DATE: July 29, 1988

INT-CL (IPC): H04N 7/14; H04N 13/00

ABSTRACT:

PURPOSE: To display a human image in a three-dimensional space as a real image by extracting the human image out of picked-up image signals, and displaying the human image and a background picture at such a time in different positions on a three-dimensional basis.

CONSTITUTION: A human image extracting part 103 replaces the image signals in the background part with black signals, transmits only the human image to a stereoscopic image display part 105 on a receiving side as the image having ordinary luminance, and the display human image is displayed as a stereoscopic image 303 (real image) based on the principle of a stereoscopic video equipment. In addition, on the receiving side, the background picture assumed beforehand is separately prepared, displayed on a background image display television monitor 201, the background image is reflected by a half mirror 202, and it constitutes a background image 203. In such a case, a human image display television monitor 301 is displayed by a finite luminance value only for the human image, since the background is black, when they are overlapped, only the human image part is observed, and the picture background 203 of the background image monitor is observed as the background part. Thus the human image can be displayed as the real image in the three-dimensional space.

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L1: Entry 30 of 47 File: JPAB Mar 12, 1993

PUB-NO: JP405064181A
DOCUMENT-IDENTIFIER: JP 05064181 A
TITLE: VIDEO TELEPHONE SET

PUBN-DATE: March 12, 1993

INVENTOR-INFORMATION:
NAME COUNTRY
KIRIYAMA, AKITOMO

ASSIGNEE-INFORMATION:
NAME COUNTRY
SHARP CORP

APPL-NO: JP03221664
APPL-DATE: September 2, 1991

INT-CL (IPC): H04N 7/14; H04M 11/06

ABSTRACT:

PURPOSE: To change the amplification factor of a voice signal sent from a caller's telephone set in response to the distance between a talker of a main telephone set and a telephone set obtained from picture data of the talker.

CONSTITUTION: The television telephone set is provided with a contour extract section 13 extracting a contour of a talker based on picture data of the talker of the main telephone set picked up by a CCD camera 11 and with a discrimination section 14 discriminating the size of the face of the talker from the contour data of the talker extracted by the contour extract section 13, and also with an amplification factor decision section 15 deciding the amplification factor of the voice signal sent from an opposite telephone set based on the result of discrimination of the discrimination section 14 and with a multiplier 17 amplifying the voice signal sent from the caller's telephone set with the amplification factor decided by the amplification factor decision section 15 and outputting the result to a speaker 18.

(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 0 810 792 A2

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
03.12.1997 Bulletin 1997/49

(51) Int Cl.[6]: **H04N 7/26**

(21) Application number: **97303590.0**

(22) Date of filing: **27.05.1997**

(84) Designated Contracting States:
DE ES GB

(30) Priority: **29.05.1996 KR 9618612**

(71) Applicant: **Samsung Electronics Co., Ltd.**
Suwon-City, Kyungki-do 441-742 (KR)

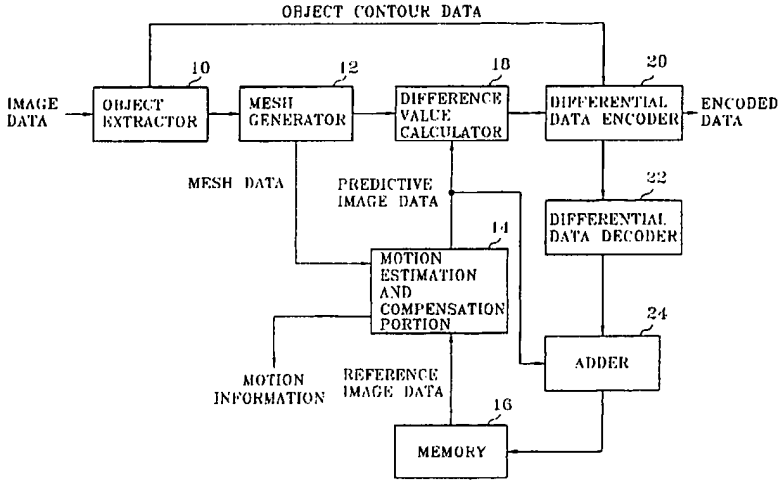
(72) Inventors:
- **Chun, Kang-Wook**
  Seoul (KR)
- **Jeon, Byeung-Woo**
  Sungnam-city, Kyungki-do (KR)

(74) Representative: **Chugg, David John et al**
Appleyard Lees,
15 Clare Road
Halifax, West Yorkshire HX1 2HY (GB)

(54) Encoding and decoding system of motion image containing objects of arbitrary shapes

(57) A motion image encoding apparatus for a current image containing an object uses mesh representation for encoding a motion image. The encoding apparatus includes an object extractor (10) for extracting the object contained in the current image from received current image data and outputting object contour data indicating a contour of the extracted object. A predictive encoder (12-18) performs a predictive encoding operation using the current image data, prestored data of a reference image, and control points of meshes which divide one of the current image and the reference image, and generates motion information involved with the control points, differential data between the current image and the reference image, and predictive image data. An object difference generator (20, 22) selects differential data in an object region among the differential data supplied from the predictive encoder to encode the selected differential data based on the object contour data output from the object extractor, and generates the selected differential data and the encoded differential data. An adder (24) receives and adds the predictive image data output from the predictive encoder and the differential data selected in the object difference generator, and updates the reference image data prestored in the predictive encoder using the image data obtained by the addition result.

FIG. 1



EP 0 810 792 A2

Printed by Jouve, 75001 PARIS (FR)

(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 0 895 418 A2

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
03.02.1999 Bulletin 1999/05

(51) Int Cl.[6]: **H04N 7/14**

(21) Application number: **98305973.4**

(22) Date of filing: **27.07.1998**

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **28.07.1997 JP 201183/97**

(71) Applicant: **SHARP KABUSHIKI KAISHA**
Osaka (JP)

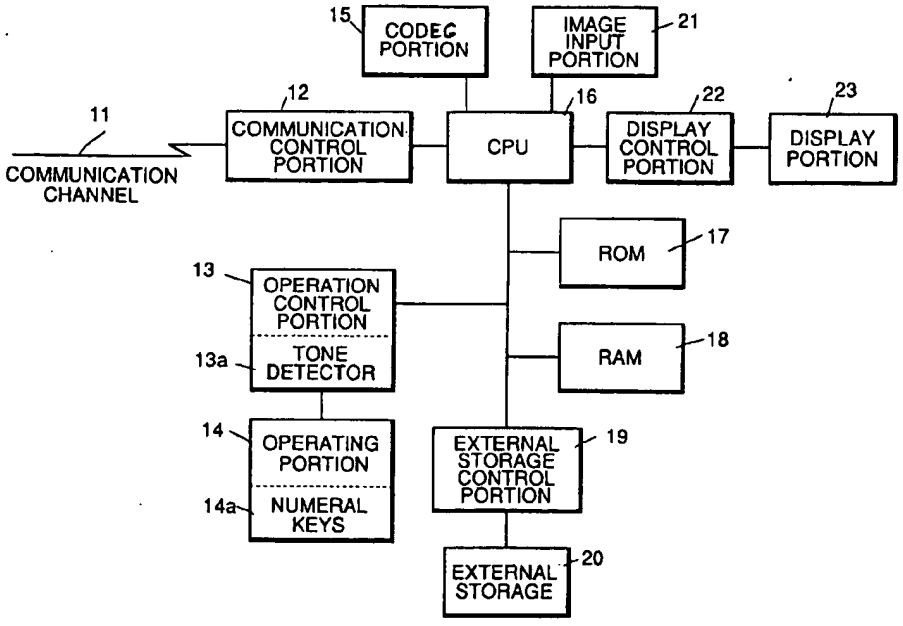
(72) Inventor: **Shibata, Kikuko**
Edogawa-ku, Tokyo (JP)

(74) Representative: **Brown, Kenneth Richard et al**
R.G.C. Jenkins & Co.
26 Caxton Street
London SW1H 0RJ (GB)

(54) Image-area extracting method for visual telephone

(57) A visual telephone terminal that allows the user to easily designate any desired area to be extracted from an image being shown on a display portion (23) by an area-extracting frame or form prepared by using numeral keys (14a) and stored in storing means (18, 20), requiring no additional cost. On the numeral keys (14a) on the visual telephone terminal, the user selects a numeral key (14a) corresponding to a start point of area-extracting frame or form, moves the start point to a desired position and fixes it at the position by pressing the start point key, then performs similar operations for selecting and deciding the second point, thus forming the area-extracting form on the image.

FIG.1



EP 0 895 418 A2

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L3: Entry 62 of 137 File: DWPI Jul 21, 1998

DERWENT-ACC-NO: 1998-452965
DERWENT-WEEK: 199839

TITLE: Video telephone with automatic answering function connected to ISDN - judges whether received ID number corresponds with stored ID number, based on which transmission of response message and recording of specific input message in memory is carried out

PATENT-ASSIGNEE: KYOCERA CORP (KYOC)

PRIORITY-DATA: 1996JP-0341706 (December 20, 1996)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 10190820 A	July 21, 1998		004	H04M001/64

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
JP 10190820A	December 20, 1996	1996JP-0341706	

INT-CL (IPC): H04 M 1/57; H04 M 1/64; H04 N 7/14

ABSTRACTED-PUB-NO: JP 10190820A
BASIC-ABSTRACT:

The telephone has a discrimination unit (3) which judges whether the user ID number received at the time of receiving a call corresponds with the stored ID number. When both ID numbers correspond, a specific response message recorded on a video tape (4) is sent out. A recording unit (5) records the audio and image information given by the recognised user in a predetermined memory area.

ADVANTAGE - Maintains secrecy of user information. Extracts required information, quickly.

ABSTRACTED-PUB-NO: JP 10190820A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.2/5

DERWENT-CLASS: W01 W02
EPI-CODES: W01-C01C5; W01-C01F3; W02-F08;

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
23 May 2002 (23.05.2002)

PCT

(10) International Publication Number
WO 02/41632 A1

(51) International Patent Classification[7]: H04N 7/14

(21) International Application Number: PCT/SE01/02215

(22) International Filing Date: 11 October 2001 (11.10.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0004220-0 16 November 2000 (16.11.2000) SE

(71) Applicant *(for all designated States except US)*: **TELEFONAKTIEBOLAGET LM ERICSSON (publ)** [SE/SE]; S-126 25 Stockholm (SE).

(72) Inventor; and

(75) Inventor/Applicant *(for US only)*: **NISTÉR, David** [SE/US]; 1604 Deer Creek Drive, Plainsboro, NJ 08536 (US).

(74) Agents: **BERGLUND, Stefan** et al.; Bjerkéns Patentbyrå KB, Östermalmsgatan 58, S-114 50 Stockholm (SE).

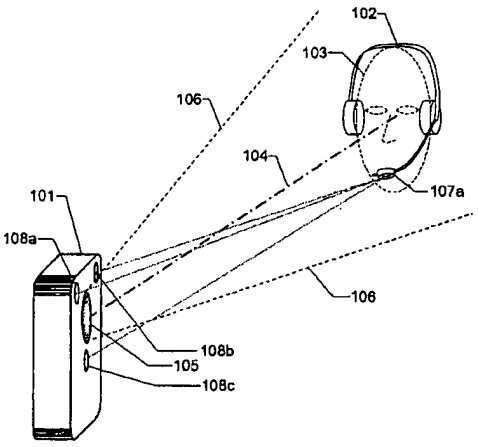
(81) Designated States *(national)*: AE, AG, AL, AM, AT, AT (utility model), AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, CZ (utility model), DE, DE (utility model), DK, DK (utility model), DM, DZ, EC, EE, EE (utility model), ES, FI, FI (utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (utility model), SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: RECORDING OF MOVING IMAGES



(57) Abstract: The present invention relates to the recording of moving images by means of a portable communication device, such as a videophone. The communication device includes a main device (101), comprising a video camera (105). Furthermore, an accessory device (102), such as a headset, is also associated with the main device (101) and co-located with a relevant object (103). The video camera (105) records an original image of the relevant object (103). At least one tracking point (107a) is located on the accessory device (102) and at least one automatic tracking sensor (108a-108c) responsive to the at least one tracking point is located on the main device (101).The main device (101) further comprises a tracking data generator, which receives signals from the automatic tracking sensor(s) (108a-108c) and generates in response thereto tracking data representing a target direction (104) between the main device (101) and the accessory device (102). An image controller in the main device (101) creates a stabilized image of the relevant object (103) based on the target direction (104) and an original image recorded by the video camera (105).

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solution, which is both capable of producing and maintaining a stable image of a relevant object and is attractive to a user from a practical point of view.

SUMMARY OF THE INVENTION

The object of the present invention is therefore to alleviate the problems discussed above by providing a method and a comparatively simple arrangement that make possible the generation of an enhanced image of a relevant object without impairing an easy use of the equipment.

According to one aspect of the invention the object is achieved by a method of producing an enhanced image of a relevant object recorded by a video camera as initially described, which presupposes that at least one tracking point is located either on the main device, on the accessory device or on both. Moreover, it is presupposed that an automatic tracking sensor responsive to the at least one tracking point is located on at least the device of the main device and the accessory device on which the tracking point is not located. However, an automatic tracking sensor may also be located on that device for redundancy reasons. The method is further characterised by generating tracking data representing a target direction between the main device and the accessory device on basis of signals received by the at least one automatic tracking sensor. A stabilized image of the relevant object is then created by processing an original image recorded by the video camera based on the target direction.

According to another aspect of the invention the object is achieved by a computer program directly loadable into the internal memory of a computer, comprising software for controlling the method described in the above paragraph when said program is run on a computer.

According to yet another aspect of the invention the object is achieved by a computer readable medium, having a program recorded thereon, where the program is to make a computer perform the method described in the penultimate paragraph above.

According to an additional aspect of the invention the object is achieved by a communication arrangement as initially described, which is characterised in that at least one tracking point is located either on the main device, on the accessory device or on both. At least one automatic tracking sensor responsive to the at least one tracking point is located on at least the device of the main device and the accessory device on which the tracking point is not located. However, an automatic tracking sensor may also be located on that device for redundancy reasons. The main device comprises a tracking data generator, which receives at least one signal from the at least one automatic tracking sensor and generates, in response thereto, tracking data representing a target direction between the main device and the accessory device. The main device also comprises an image controller, which creates a stabilized image of the relevant object based on the target direction and an original image recorded by the video camera.

The proposed solution thus ensures a stable tracking of a relevant object, such as the head of a user, from a portable main device without requiring any additional devices that might cause inconvenience to the user.

This, of course, makes the invention attractive for mobile video telephony applications from a technical point of view as well as from a commercial point of view.

BRIEF DESCRIPTION OF THE DRAWINGS AND THE ANNEX

The present invention is now to be explained more closely by means of preferred embodiments, which are disclosed as

INTERNATIONAL SEARCH REPORT

International application No.
PCT/SE 01/02215

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: H04N 7/14
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: H04R, H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 0056070 A1 (QUALCOMM INC), 21 Sept 2000 (21.09.00), page 3, line 5 - page 6, line 18	1-43
	--	
A	US 5438357 A (MCNELLY, S.H.), 1 August 1995 (01.08.95), column 2, line 49 - line 56; column 6, line 34 - line 65	2-5,18-21
	--	
P,A	US 6162191 A (TELEFONAKTIEBOLAGET LM ERICSSON (PUBL) ET AL), 19 December 2000 (19.12.00)	1-43
	--	

[X] Further documents are listed in the continuation of Box C. [X] See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
1 February 2002	06 -02- 2002
Name and mailing address of the ISA/ Swedish Patent Office Box 5055, S-102 42 STOCKHOLM Facsimile No. +46 8 666 02 86	Authorized officer Henrik Andersson/LR Telephone No. +46 8 782 25 00

Form PCT/ISA/210 (second sheet) (July 1998)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/SE 01/02215

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0884905 A2 (NOKIA MOBILE PHONES LTD), 16 December 1998 (16.12.98), page 3, line 39 - page 4, line 13; page 2, line 12 - line 37, figures 1A,1B, abstract ---	1,17
A	EP 689357 A1 (HARRIS CORP), 27 December 1995 (27.12.95), column 2, line 14 - line 55; column 3, line 53 - column 5, line 48, figures 2A-2D, abstract --- ---	1,17

Form PCT/ISA/210 (continuation of second sheet) (July 1998)

L1: Entry 8 of 47 File: JPAB Sep 11, 1998

PUB-NO: JP410243367A
DOCUMENT-IDENTIFIER: JP 10243367 A
TITLE: COLOR IMAGE/SOUND TRANSMITTER, COLOR IMAGE/SOUND RECEIVER AND COLOR VIDEO TELEPHONE

PUBN-DATE: September 11, 1998

INVENTOR-INFORMATION:

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ASSIGNEE-INFORMATION:

NAME	COUNTRY
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APPL-NO: JP09038097
APPL-DATE: February 21, 1997

INT-CL (IPC): H04 N 7/14; H04 N 7/12

ABSTRACT:

PROBLEM TO BE SOLVED: To smoothly reproduce an image with little information closer to the real figure of a speaker by providing the reception side with reproducing information corresponding to the speaker data while reducing transmission information quantity by defining monochromatic image data and speaker data as transmission information.

SOLUTION: On the transmission side, monochromatic data C are extracted from color image data B by a means 2 and sent out to a transmission line 10, the person in the image is suitably segmented into face and clothing sections or the like by a segmentation means 3, and the speaker data fro each segmented part are extracted from a data base 9 and sent through a speaker data generating part 8 onto the transmission line 10. On the reception side, a reproduction information generating part 11 extracts various kinds of reproduction information from a data base 12 based on the received speaker data, adds the information of colors or the like to the monochromatic image data C and reproduces the color image of the speaker A.

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(51)Int.Cl.[6]	識別記号	ＦＩ		
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7/12		7/12	Ｚ	

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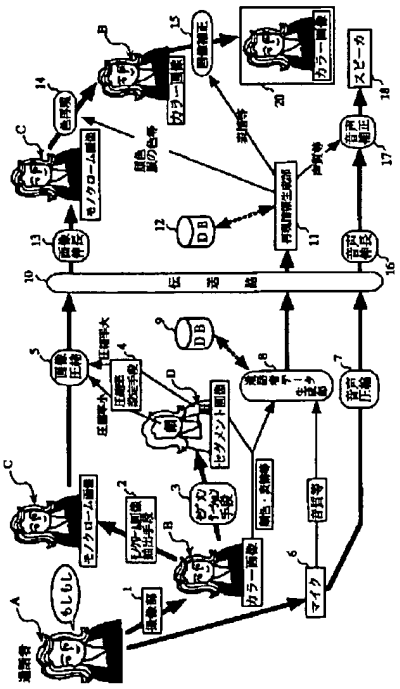
(54)【発明の名称】　カラー画像／音声送信装置およびカラー画像／音声受信装置およびカラーテレビ電話

(57)【要約】

【課題】　モノクローム画像データと通話者データを送信情報とすることにより送信情報量を少なくしつつ、この少ない情報での画像の再現を、受信側が前記の通話者データに対応する再現情報を持つことにより、通話者の実際の容姿に近い形で且つ滑らかに行わせることを目的とする。

【解決手段】　送信側では、カラー画像データＢからモノクローム画像データＣを手段２にて抽出して伝送路１０に送出するとともに、セグメンテーション手段３にて映像中の人物を、顔部分、服装部分等に適宜区分し、区分された部分ごとの通話者データをデータベース９から抽出し、通話者データ生成部８を介して伝送路１０上に送出し、受信側では、受信した通話者データに基づいて再現情報生成部１１がデータベース１２から種々の再現情報を取り出し、モノクローム画像データＣに色等の情報を付加して通話者Ａのカラー画像を再現する。



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L3: Entry 105 of 137 File: DWPI Jan 31, 1995

DERWENT-ACC-NO: 1995-104195
DERWENT-WEEK: 200111

TITLE: Moving image transmission for video conference - operating circuit to extract image of person by comparing background image stored in memory with image taken by camera

INVENTOR: HIRABAYASHI, Y

PATENT-ASSIGNEE: CANON KK (CANO)

PRIORITY-DATA: 1993JP-0153640 (June 24, 1993)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 07030888 A	January 31, 1995		005	H04N007/30
US 6188726 B1	February 13, 2001		000	H04N007/12

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
JP 07030888A	June 24, 1993	1993JP-0153640	
US 6188726B1	June 13, 1994	1994US-0259185	Cont of
US 6188726B1	October 18, 1996	1996US-0733788	

INT-CL (IPC): G06 T 9/00; H03 M 7/40; H04 N 7/12; H04 N 7/14; H04 N 7/30; H04 N 7/32; H04 N 11/04

ABSTRACTED-PUB-NO: JP 07030888A
BASIC-ABSTRACT:

A memory (12) stores the background image of the picture previously taken. A camera (10) takes the person's image and positions it in the image provided by the background memory.

An extraction circuit (14) compares the memory image of background memory with that of the picture taken by the camera. The change of pixel value from the constant constitutes the person's image. The parts other than person's image are considered as zero pixel values. An encoding circuit between motion compensation frames (16) carries out the encoding process between the compensation frames present in the output of the person extraction circuit. This process, along with the decoding of the image formation, is carried on the receiving side of the system. The background image which is memorised is incorporated in the portions where the pixel values are zero.

USE/ADVANTAGE - Video telephone receiver. Sharply reduces amt. of code required. Allows selection of arbitrary backgrounds.

ABSTRACTED-PUB-NO: US 6188726B
EQUIVALENT-ABSTRACTS:

A memory (12) stores the background image of the picture previously taken. A camera (10) takes the person's image and positions it in the image provided by the background memory.

An extraction circuit (14) compares the memory image of background memory with that of the picture taken by the camera. The change of pixel value from the constant constitutes the person's image. The parts other than person's image are considered as zero pixel values. An encoding circuit between motion compensation frames (16) carries out the encoding process between the compensation frames present in the output of the person extraction circuit. This process, along with the decoding of the image formation, is carried on the receiving side of the system. The background image which is memorised is incorporated in the portions where the pixel values are zero.

USE/ADVANTAGE - Video telephone receiver. Sharply reduces amt. of code required. Allows selection of arbitrary backgrounds.

CHOSEN-DRAWING: Dwg.1/2

DERWENT-CLASS: T01 W02 W04
EPI-CODES: T01-D02; T01-J04B1; T01-J10B; W02-F08A3; W04-N05C5; W04-N05C9; W04-N05G5; W04-P01A;

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【００２７】背景メモリ１２は、カメラ１０による撮影画像から背景画像を除去するための基礎となる画像情報を記憶する。カメラ１０の撮影視野内の背景は、カメラ振れ、パン及びズーム等により微妙に又は大きく変動する。予測される変動範囲をカバーできるように、背景メモリ１２は、通常の１画面より大きな範囲の画像データを記憶できるのが好ましい。また、カメラ１０の操作情報（ズーム、焦点距離、パン角及びチルト角など）を参照することにより、人物抽出回路１４における人物部分の抽出が容易になることは勿論である。

【００２８】ＤＣＴ、量子化及び可変長符号化を使用する符号化方式を例示したが、本発明は、このような符号化方式に限定されない。

【００２９】

【発明の効果】以上の説明から容易に理解できるように、本発明によれば、動画像伝送に要する符号量を大幅に減少することができる。また、任意の背景を選択できるので、送信側の実際の背景を秘匿したい場合や、特定の背景を使用したい場合に非常に便利である。

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【図面の簡単な説明】

【図１】　本発明の一実施例の送信側の概略構成ブロック図である。

【図２】　本実施例の受信側の概略構成ブロック図である。

【符号の説明】

１０：カメラ　１２：背景メモリ　１４：人物抽出回路　１６：動き補償フレーム間符号化回路　１８：減算器　２０：離散コサイン変換回路　２２：量子化回路　２４：可変長符号化回路　可変長復号化回路　２８：逆量子化回路　３０：逆ＤＣＴ回路　３２：加算器　３４，３４Ａ，３４Ｂ：フレーム・メモリ　３６：動きベクトル検出及び動き補償回路　３８：多重化回路　４０：通信回線　４２：分離回路　４４：復号化回路　４６：可変長復号化回路　４８：逆量子化回路　５０：逆ＤＣＴ回路　５２：加算器　５４，５４Ａ，５４Ｂ：フレーム・メモリ　５６：加算器　５８：背景メモリ　５０：モニタ

【図１】